



Parcel E FS



Update on Parcel E Feasibility Study Report

Hunters Point Shipyard
BCT Meeting
January 27, 2011



Presentation Overview



1. Shoreline Protection Tech Memo
(Additional FS Appendix)
 - Background information
 - Evaluation approach of shoreline protection options
 - Results and recommendations
2. Update: Hot Spot Removal and Cover Options
(based on Aug 2010 Amended Redevelopment Plan)
3. Next Steps



Part I: Shoreline Protection TM – Background Information



- Existing shoreline at Parcel E:
 - Contains sediment that is potentially impacted with metals, PCBs, pesticides, and radionuclides
 - Contiguous with IR Site 02 (IR-02), which is identified as radiologically-impacted and contains extensive subsurface contamination
- Draft FS Report evaluated remedial alternatives for the Parcel E shoreline:
 - One primary shoreline protection option (surface excavation and installation of protective revetment) was identified and was evaluated in conjunction with the soil alternatives
 - Shoreline protection was combined with soil covers at IR-02 to form the primary containment alternative (common to Alt S-2 through S-5)



Part I: Shoreline Protection TM – Background Information (cont.)



Agency Comments on the Draft FS Report:

Request that the FS Report evaluate natural shoreline protection options for all or part of the shoreline in addition to rock revetment

- *Navy Response:* Develop effective shoreline remedial options that are cost effective and implementable given Parcel E site conditions.

Shoreline Protection – Evaluation of Options:

Appendix to Draft Final FS Report (& supplements Section 3.3.2.1.5):

1. Evaluates several options for natural or hybrid stabilization structures
2. Identifies the most promising natural or hybrid stabilization option to be used in combination with the shoreline revetment option presented in the Draft FS Report



Part I: Shoreline Protection TM – Background Information (cont.)



Types of Shoreline Protection Options:

- *Armoring*
 - Includes seawalls, bulkheads, and protective revetments
- *Shoreline Nourishment*
 - Involves constructing wider shoreline with berms or feeder dunes (to offset erosion from storm events)
- *Shoreline Stabilization*
 - Structural stabilization – breakwaters, groins, sills, and reefs
 - Nonstructural stabilization – aquatic vegetation, sand fill, and biodegradable organic materials (e.g., natural fiber matting)



Part I: Shoreline Protection TM – Evaluation Approach



Hybrid Stabilization:

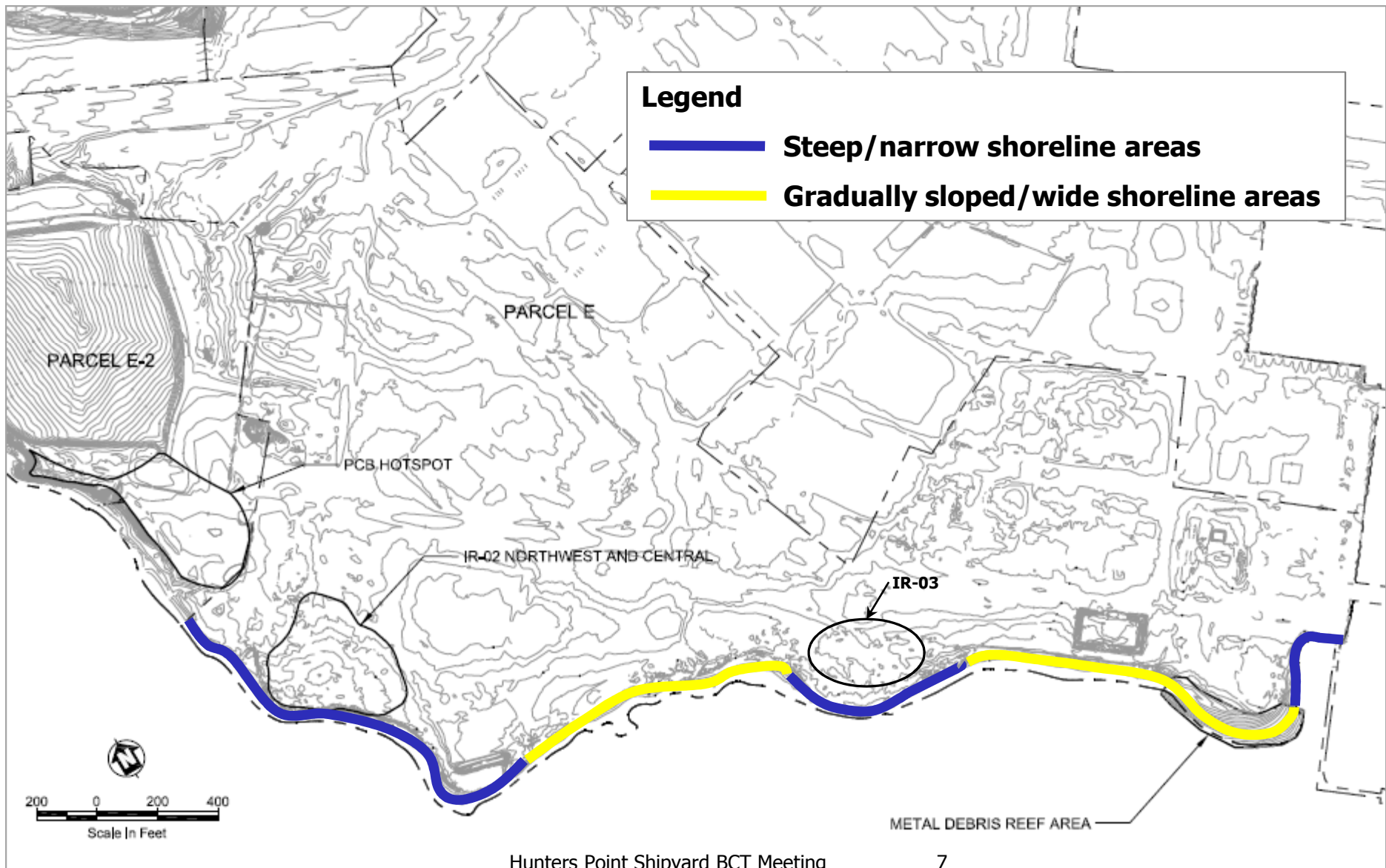
- Technical Memorandum – (Appendix to the Draft Final FS Rpt) will evaluate options that combine structural and nonstructural stabilization methods
 - *Note:* Nonstructural methods alone will not be adequate to dissipate moderate wave energy offshore of Parcel E and serve as an effective containment structure

Evaluation of Existing Topography along Shoreline

1. Steep and Narrow Shoreline Areas
 - relatively narrow (~50 ft wide or less) with predominantly steep slopes (~3:1, horizontal : vertical)
2. Gradually Sloped/Wide Shoreline Areas
 - relatively wider (~50 to 100 ft wide) with gradual slopes (less than 3:1, with many portions close to 10:1)



Part I: Shoreline Protection TM – Evaluation Approach(cont.)





Part I: Shoreline Protection TM – Results and Recommendations



1. Steep/Narrow Shoreline Areas

- Most areas are adjacent to inland areas with the most extensive subsurface contamination (IR-02 Northwest and IR-03) where containment is likely the most practical remediation approach
 - Hybrid shoreline stabilization is not cost-effective or readily implementable because extensive excavation (and off-site disposal) would be required along both the shoreline and inland areas to create gradual slopes that would be stable in the long-term
- *Recommendation* – Steep/Narrow Areas: Armoring
- Most viable armoring option: Rock Revetment



Part I: Shoreline Protection TM – Evaluation

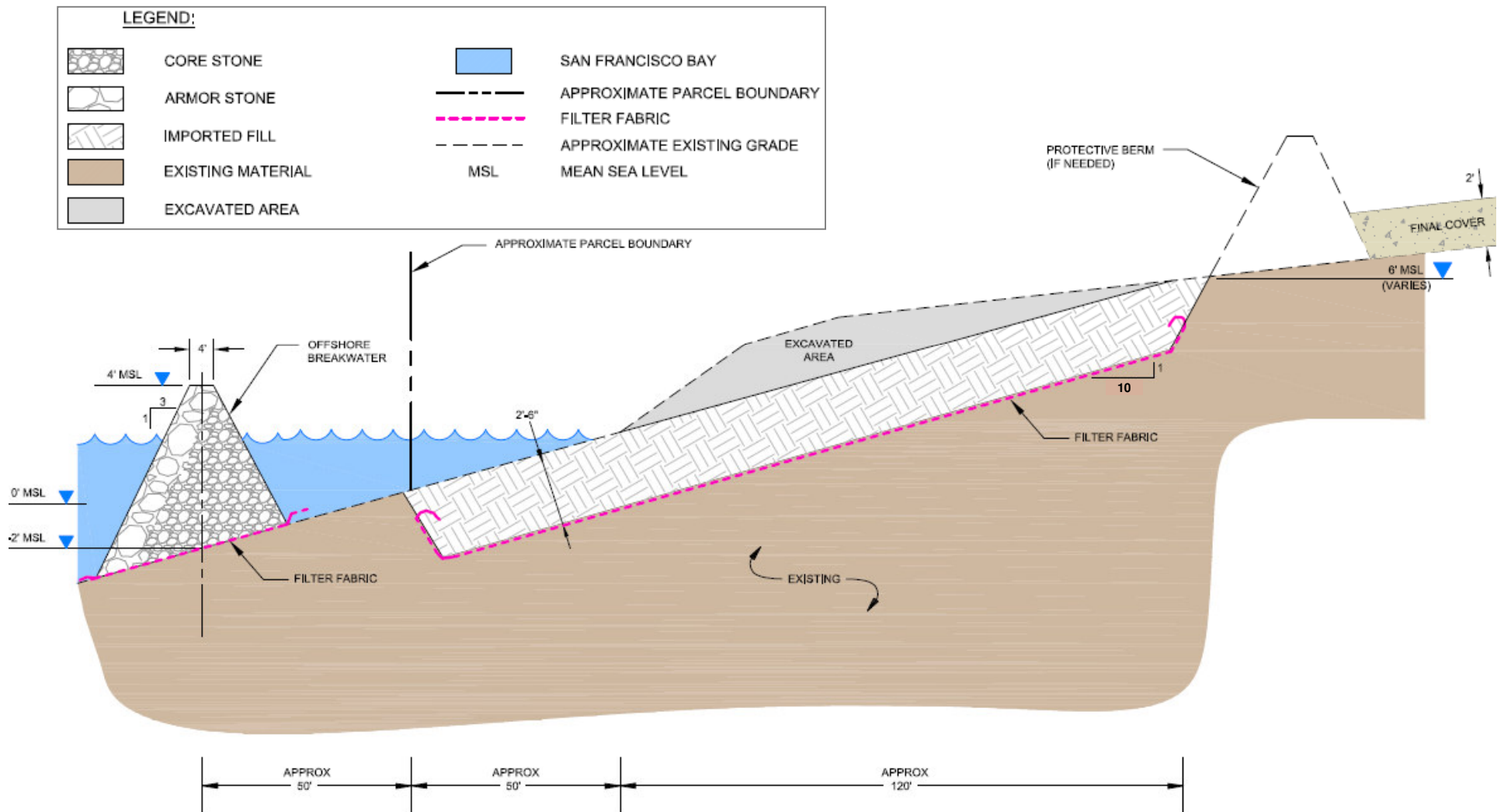


2. Gradually sloped/wide shoreline areas

- Most areas are adjacent to inland areas with less extensive subsurface contamination
 - Hybrid shoreline stabilization is more cost-effective and implementable because less excavation and less extensive protective measures would be required to ensure long-term stable slopes
- *Recommendation:* Gradually Sloped/Wide Areas: two hybrid stabilization options that satisfy the RAOs
- Natural shoreline materials with offshore reef
 - Natural shoreline materials with underlying rock armor



Natural Shoreline Materials with Offshore Reef





Part I: Shoreline Protection TM – Evaluation (cont.)

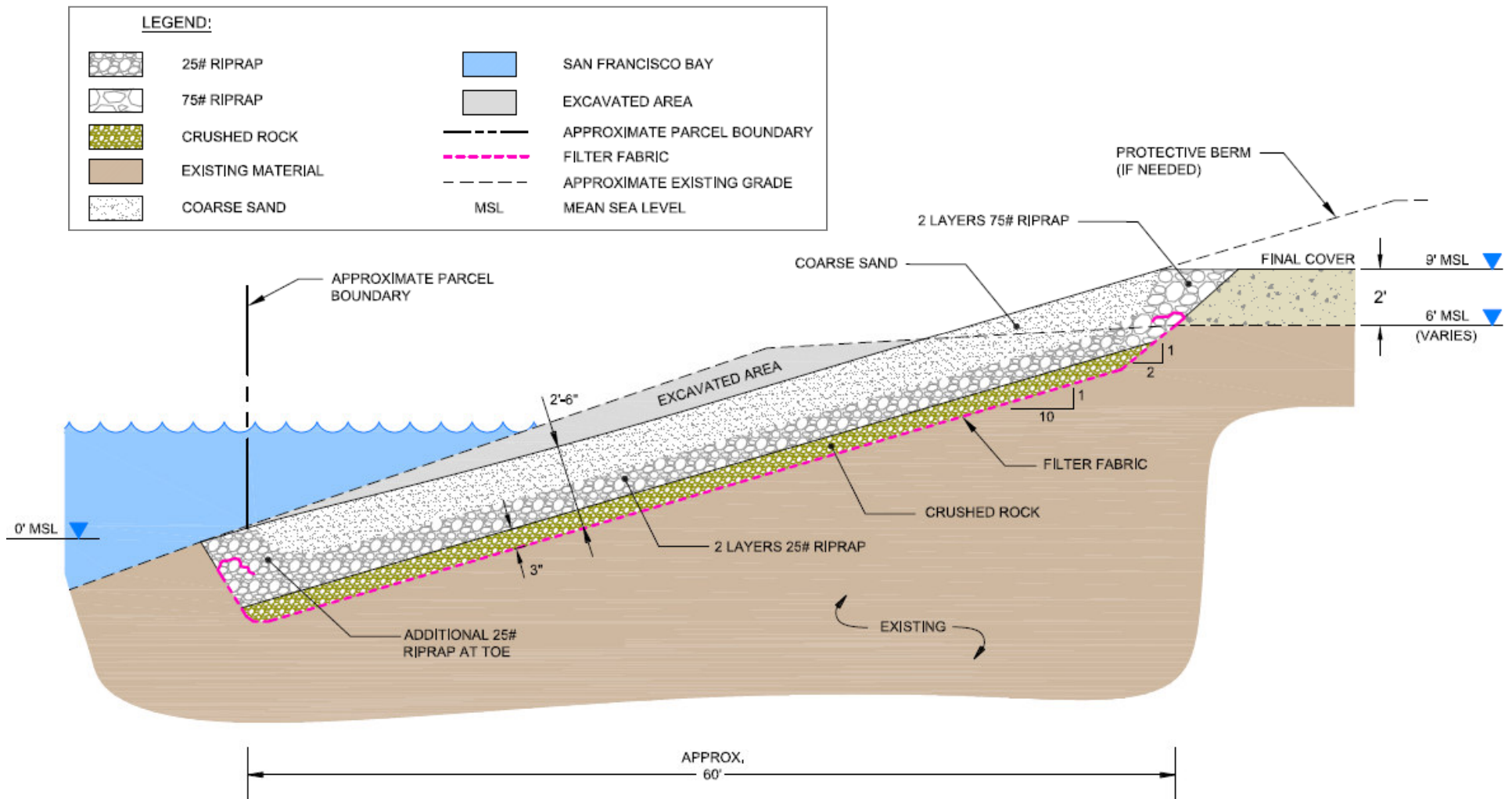


Natural shoreline materials with offshore reef:

- *Advantages*
 - Natural shoreline: habitat for wildlife and enhanced recreational reuse
 - Offshore reef: habitat for aquatic wildlife
 - Potential for vegetation establishment within shoreline zone
 - Access to the water would be unimpeded from the landward side
- *Disadvantages*
 - Natural Shoreline: Long-term maintenance (potential for exposure to contaminated soil following erosion or intrusive use)
 - Offshore reef:
 - Implementation (regulatory approval for filling in bay and need for specialized equipment)
 - Maintenance (unknown bearing capacity of sediments may result in significant settlement)
 - Access limitation to shoreline from bay (for watercraft)



Natural Shoreline Materials with Underlying Rock Armor





Part I: Shoreline Protection TM – Evaluation (cont.)



Natural shoreline materials with underlying rock armor:

- *Advantages*
 - Natural shoreline: habitat for wildlife and enhanced recreational reuse
 - Access would be unimpeded from the landward and bayward side
 - Underlying rock armor minimizes potential for exposure to contaminated soil following erosion or intrusive use
 - Can be constructed with conventional equipment
- *Disadvantages*
 - Long-term maintenance (sand replenishment may be required following erosion or intrusive use)



Part I: Shoreline Protection TM – Recommendations



Shoreline Protection Recommendations:

1. Steep and Narrow Shoreline Areas
 - Rock Revetment
2. Gradually Sloped/Wide Shoreline Areas
 - Natural Shoreline Materials with Underlying Rock Armor

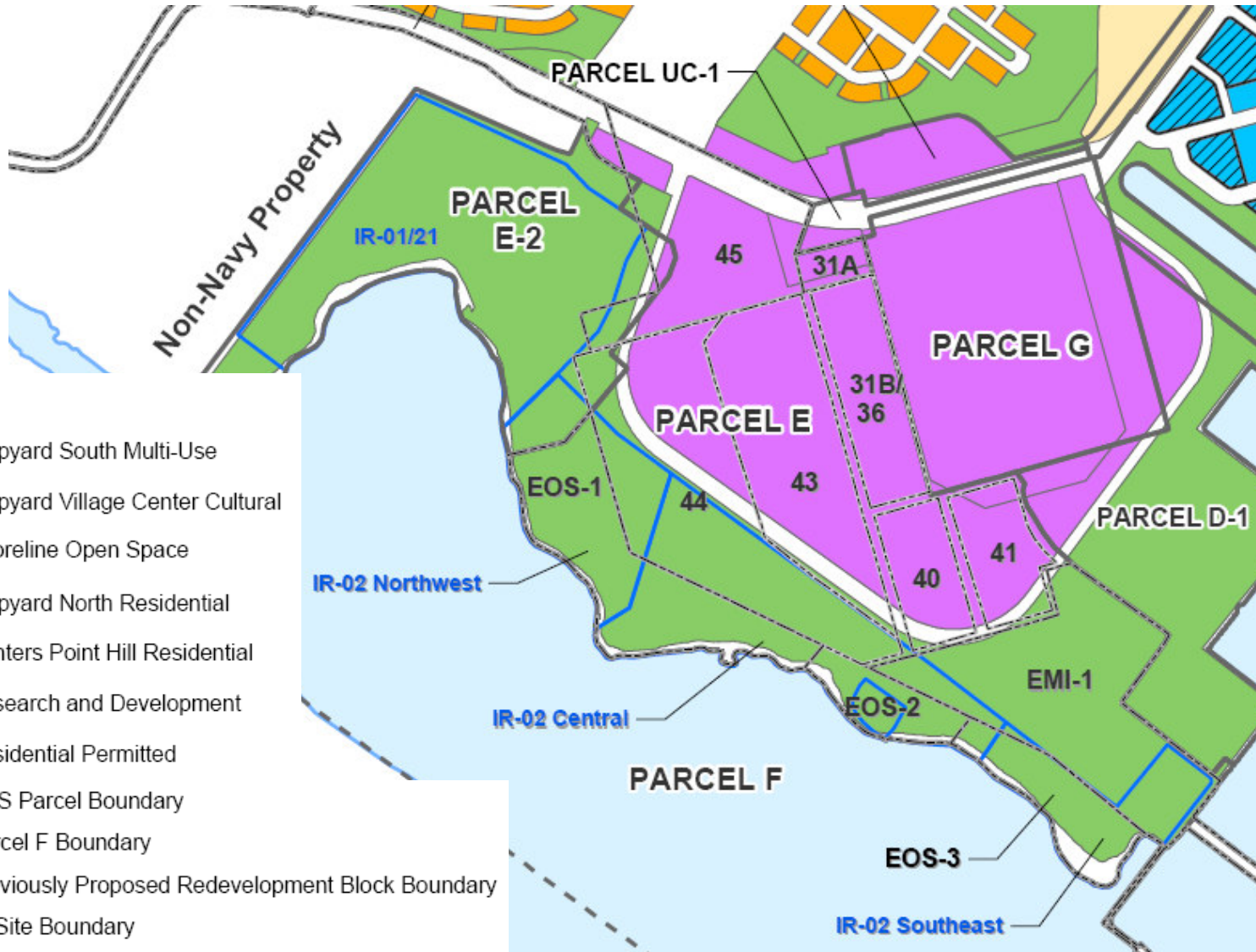


Part II: FS Update – 2010 Amended Redevelopment Plan



LEGEND

- Shipyard South Multi-Use
- Shipyard Village Center Cultural
- Shoreline Open Space
- Shipyard North Residential
- Hunters Point Hill Residential
- Research and Development
- Residential Permitted
- HPS Parcel Boundary
- Parcel F Boundary
- Previously Proposed Redevelopment Block Boundary
- IR Site Boundary





Part II: FS Updates Preliminary Evaluation

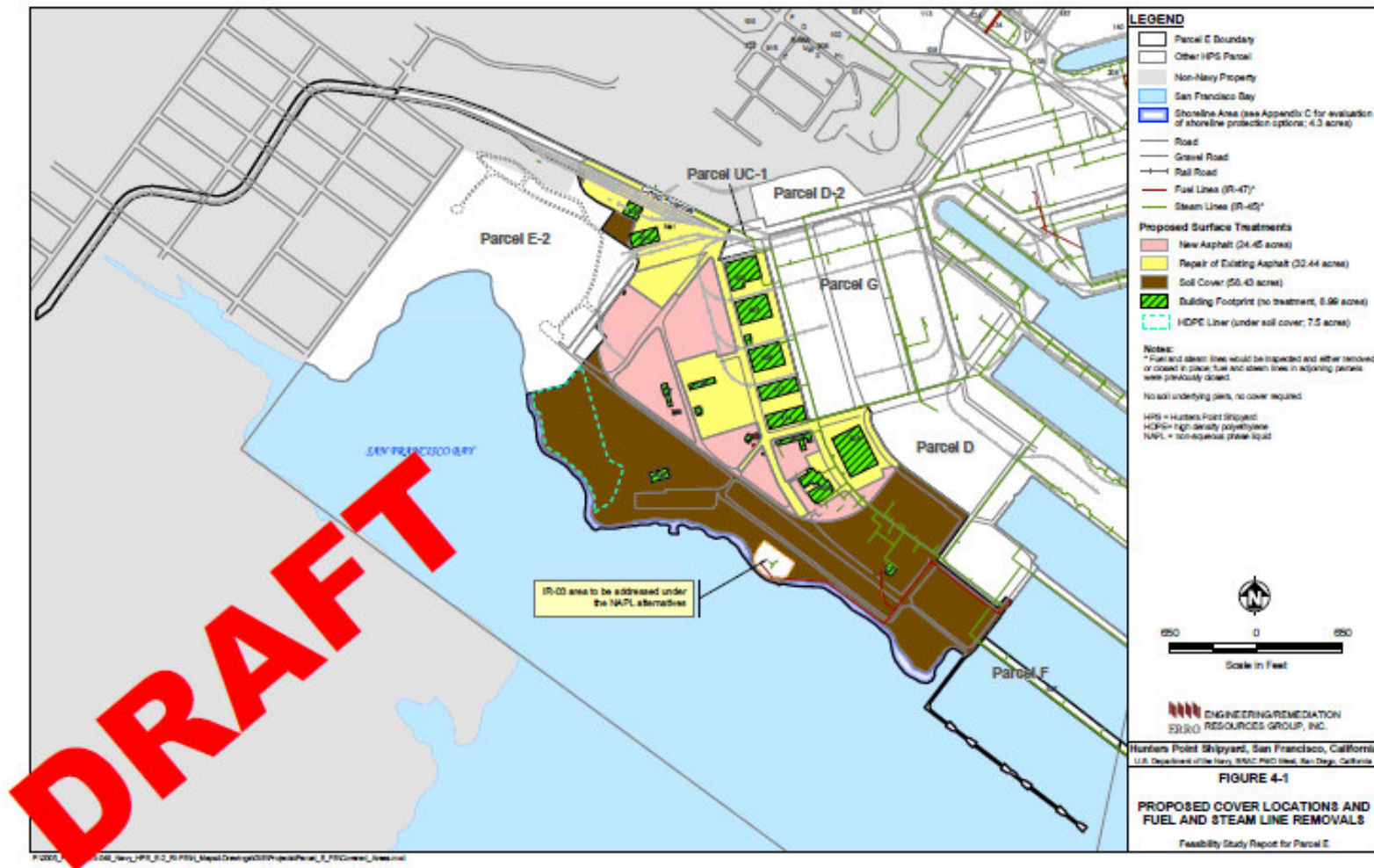


Additional evaluation to incorporate 2010 Amended Redevelopment Plan into Draft Final FS:

- Hot spot evaluation based on residential RGs in "Shipyard South Multi-Use" and on open space RGs in "Shoreline Open Space"
 - Removal of areas that exceed RGs by either 5 or 10 times (similar to Draft FS)
- Durable covers in all areas
 - Asphalt paving in "Shipyard South Multi-Use" area
 - Soil cover in "Shoreline Open Space" area
- ICs will be aligned with updated reuse
 - Land use restrictions consistent with updated reuse
 - Activity restrictions consistent with selected remedies at other HPS parcels



Part II: FS Updates – Preliminary Eval for Hot Spot Removal and Covers





Part II: FS Updates – Preliminary Eval for Hot Spot Removal



Overall Notes:

- Relative differences in excavation volume and cost are moderate
- Increased effort and cost appears justified to better align planned cleanup with reasonably anticipated reuse

Changes in Excavation Volumes & Costs in Comparison to the Draft FS:

- Overall **increase in excavation volume:**
 - Excavation volume for “hot spot areas” increased from 33,475 to 43,474 cubic yds
 - Excavation volume for “exceedance locations” decreased from 5,565 to 2,770 cubic yds
 - Net increase in excavation volume (Alternatives S-4 and S-5) = 7,204 cubic yds
- Overall **increase in cost:**
 - Excavation cost for “hot spot areas” increased from \$6.4M to \$8.6M
 - Excavation cost for “exceedance locations” decreased from \$1.2M to \$0.7M
 - Net increase in excavation cost (Alternatives S-4 and S-5) = \$1.7M



Part II: FS Updates Preliminary Evaluation for Covers



Overall Notes:

- Updates to cover alternatives appear justified to better align planned cleanup with reasonably anticipated reuse

Changes in Comparison to the Draft FS:

- Overall **increase in soil cover** and **decrease in asphalt paving cover**:
 - Soil cover area increased from 20.4 to 58.4 acres
 - Soil cover volume increased from 98,500 to 188,500 cubic yards
 - Asphalt paving decreased from 107.4 to 56.9 acres
- Overall **decrease in capital cost**:
 - Soil cover cost increased from \$1.3M to \$2.4M
 - Asphalt paving cost decreased from \$8.3M to \$3.6M
- *Note:* Cost of increased soil cover is offset by:
 - Reduction of soil cover thickness (from 3- to 2-feet thick; consistent with current analysis)
 - Reduction in asphalt paving (asphalt is more costly on a per unit area basis)



Next Steps



1. Additional working meeting to further discuss and resolve issues (Needed ?)
2. Preliminary schedule for submitting Draft Final FS Report
 - “Over-the-shoulder” review of key sections (?)
 - Align FS Report schedule with Radiological Addendum
 - Draft Final FS – 5/17/2011
 - Draft Final FS Rad Add – 5/27/2011
 - Final FS – 8/25/2011
 - Final FS Rad Add – 9/2/2011